

DRAFT
DEFINITIONS OF TERMS FOR USE IN THE FEASIBILITY STUDY

There appears to be some ambiguity and inconsistency with regard to how sediment sites, guidance, and the NCP use key FS terms. To try to limit ambiguity in the Portland Harbor FS, the LWG offers the following terms and definitions for consideration.

The relationship of the defined terms in the Remedial Investigation and Feasibility Study (RI/FS) process is shown in an attached flow chart.

Relevant Information and Levels (RIL): An information type considered in the RI/FS process, alone or in combination with other RILs, to determine the need for possible remedial action. An RIL may consist of matrix-specific risk-based concentrations, chemical-specific potential Applicable or Relevant and Appropriate Requirements (ARARs), consideration of narrative goals, or other risk indicators from the Baseline Risk Assessment (BLRA). RILs are not Preliminary Remediation Goals (PRGs), either because the RIL is not numeric, not expressed in terms of chemical concentrations in the media of interest, and/or insufficiently certain to be used as a PRG.

Remedial Action Objective (RAO): “RAOs are intended to provide a general description of what the cleanup is expected to accomplish, and help focus the development of the remedial alternatives in the feasibility study. RAOs are typically derived from the conceptual site model... and address the significant exposure pathways.” (EPA 2005). “Remedial action objectives consist of medium-specific or operable unit-specific goals for protecting human health and the environment.”(EPA 1988). RAOs should specify the contaminants of concern, exposure routes, and receptors (EPA 1988). RAOs are used in the FS to identify the chemicals, media, and exposure scenarios for which PRGs need to be developed.

Preliminary Remediation Goal (PRG): A numeric matrix-specific chemical value that attains the RAOs for the project, and that can be used to identify Areas of Potential Concern (AOPCs) for an RI/FS. PRGs “...are developed on the basis of chemical-specific ARARs, when available, other available information (e.g., RfDs), and site-specific risk-related factors.”(EPA 1988). PRGs may also consider background levels and per guidance, “...the CERCLA program normally does not set cleanup levels below anthropogenic background concentrations.”(EPA 2002).

Risk-based PRGs for human health represent a **range** of values within acceptable risk levels (e.g., cancer risks of 10^{-6} , 10^{-5} , and 10^{-4} and a non-cancer Hazard Index of 1 or less depending on the health end points of the specific contaminants of concern). Risk-based PRGs for ecological receptors also provide a **range** of risk levels based on a range of exposure scenarios for the receptors of concern identified in the ecological risk assessment.

PRGs will be refined during the RI/FS process as more information is developed (EPA 1998) including selection of the most appropriate values from the initial broad PRG ranges to be used in detailed evaluations of remedial alternatives in the FS. Refined PRGs will be used in the FS to identify the types, locations, areas, and volumes of sediment that require remediation (i.e., AOPCs) and as values against which the performance of remedial action alternatives will be compared.

Included in the definition of each PRG is the point of compliance for the PRG (e.g., surface water PRGs apply within river water not within an outfall discharge or within transition zone water) as well as the appropriate scale for applying the PRG (e.g., PRGs based on site-wide risks will be applied at that same scale).

Cleanup Level: A numeric matrix-specific chemical value that is documented in the Record of Decision (ROD) and developed by weighing a number of factors, including site-specific uncertainty factors and the criteria for remedy selection found in the National Contingency Plan (NCP). These criteria include long-term effectiveness and permanence; reduction of toxicity, mobility and volume through treatment; short-term effectiveness; implementability; cost; and state and community acceptance (EPA 2005). Cleanup levels also consider uncertainty factors such as the reliability of inputs and outputs of any model used to estimate risks and establish cleanup levels, reliability of the potential approaches to achieve those results, and the likelihood of occurrence for the exposure scenarios being considered. Other technical factors include (among others) limitations of remedial alternatives and detection and quantification limits of contaminants in environmental media. Both background levels of contamination and what has been achieved at similar sites elsewhere should be considered, so that achievable cleanup levels are developed.

At the end of the FS process, the Lower Willamette Group (LWG) will recommend clean up levels for consideration by EPA based on the refined PRGs and the results of the detailed

evaluation of remedial alternatives. EPA sets final cleanup levels in the ROD taking into account NCP requirements for establishing final remediation goals.

Area of Potential Concern (AOPC): An area of sediments that is identified for further evaluation in the RI/FS process based on applying relevant PRGs at the appropriate points of compliance and spatial scales. AOPC boundaries do not delineate final remediation areas and may be revised during the FS process as PRGs are refined.

Sediment Management Area (SMA): Areas and volumes of sediments identified in the FS for potential remedial action and segregated into discrete units for the purposes of the identification and evaluation of remedial technologies.

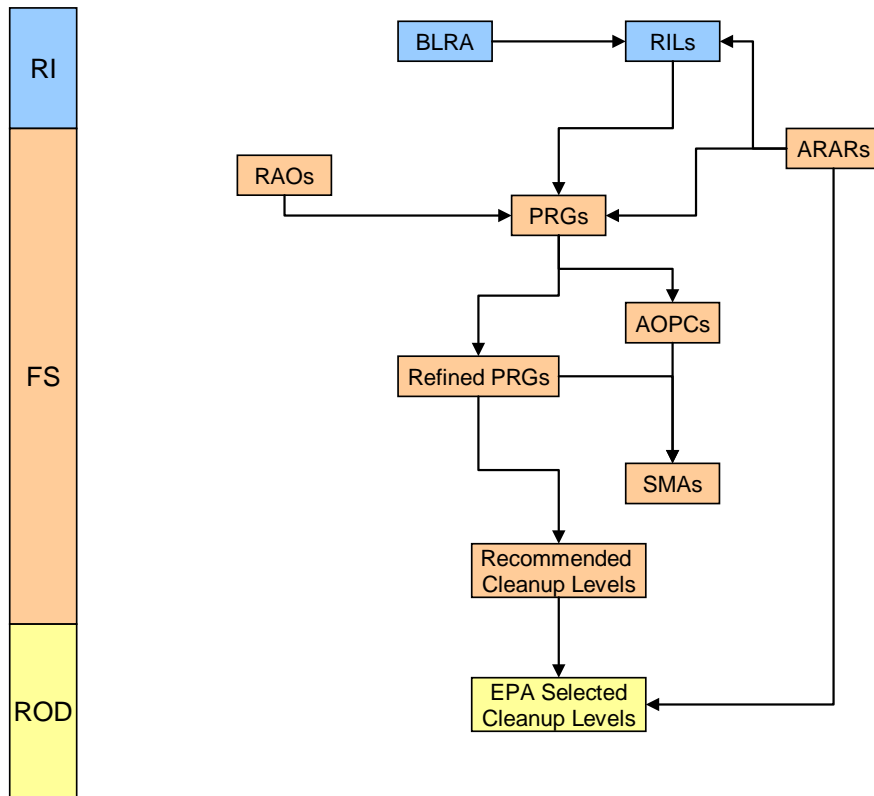
References

EPA. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. EPA/540/G-89/004, OSWER Directive 9355.3-01, October 1988. Washington, D.C.

EPA. 2002. Office of Solid Waste and Emergency Response Memorandum. Subject: Transmittal of Policy Statement: "Role of Background in the CERCLA Cleanup Program" OSWER 9285.6-07P. From: Michael B. Cook, Directors/ Michael B. Cook, Office of Emergency and Remedial Response. To: Superfund National Policy Managers Regions 1 – 10. Signed May 1, 2002

EPA. 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. EPA-540-R-05-012 Office of Solid Waste and Emergency Response, OSWER 9355.0-85. December 2005. Washington, D.C.

Summary Flow Chart of PRG/FS Process



AOPCs – Areas of Potential Concern
 ARARs – Applicable or Relevant and Appropriate Requirements
 BLRA – Base Line Risk Assessment
 FS – Feasibility Study
 PRGs – Preliminary Remediation Goals
 RAOs – Remedial Action Objectives
 RI – Remedial Investigation
 RILs – Relevant Information and Levels
 ROD – Record of Decision
 SMAs – Sediment Management Areas